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COMMUNICATING CLIMATE CHANGE: STRATEGIES TO MOTIVATE THE AGRICULTURAL SECTOR

BARCLAY ROGERS*

I. INTRODUCTION

Like any other problem, there are two fundamentally different ways to approach the problem of climate change:

"I think it's just a recipe for disaster and I'm not going to go along with it, period."[1]

"We know it is coming. We have the knowledge to avert it. If we put it off, solving it later will mean the acute suffering – and even death – of millions of innocents who could have been spared such a tragedy."[2]

Congressman Collin Peterson, Chairman of the U.S. House of Representatives Agricultural Committee, made the first statement regarding the proposed carbon cap and trade program in the United States.[3] Mr. Peterson is critical of the proposed program to limit carbon emissions, especially aspects relating to agriculture, because it is "ideology run amuck."[4]

The second statement is from Dr. Norman Borlaug and former President Jimmy Carter, both Nobel Laureates, commenting on the potential to meet predicted food shortages in Africa through the use of agricultural technology by improving farming practices.[5] While concerning another global problem, food shortages of the 1950s and 1960s are in many ways analogous to the issues surrounding climate change today. This effort

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[1] Allison Winter, *'Tough' Negotiator Peterson Rocks Climate Debate*, N.Y. TIMES (June 17, 2009), http://www.nytimes.com/gwire/2009/06/17/17greenwire-tough-negotiator-peterson-rocks-climate-debate-2199.html?pagewanted=1.

[2] Norman Borlaug & Jimmy Carter, *Food for Thought*, WALL ST. J., Oct. 14, 2005, at A10, *available at* http://www.worldfoodprize.org/index.cfm?nodeID=24667&audienceID=1&action=display&newsID=8099.

[3] Winter, *supra* note 1.

[4] *Id.*

[5] *See* Borlaug & Carter, *supra* note 2.

was led by inspiring characters, including Dr. Borlaug, who saw science and technology as a means to solve daunting problems facing society.[6]

Rhetoric matters in leadership, but the current discussion surrounding agriculture's contribution to climate change, specifically, the potential to reduce agricultural emissions, is often negative and defeatist. It is full of arguments that carbon reduction programs will saddle farmers with regulation, drive people off their farms, and eventually bankrupt agriculture as an enterprise.[7] It is rarely filled with much hope.

This negativity is important because the agriculture industry is a big player in the climate change debate. On the global level, agricultural contributions to greenhouse gas emissions exceed those associated with the transport sector and nearly rival those of the industrial sector as a whole.[8] Yet relatively little effort is going into reducing agricultural emissions. For example, the proposed American Clean Energy and Security Act, commonly known as the Waxman-Markey bill, exempts the agriculture industry from carbon controls.[9] If we approach agriculture in a defeatist manner, we may miss out on one of the largest, and possibly cheapest, opportunities to reduce dangerous greenhouse gases.

As will be explored below, an effective strategy for motivating the agricultural sector to reduce greenhouse gas emissions must include the following elements:

Communicating on a personal level. All too often the climate change debate has focused on scientific disputes and distant risks. In order to prompt people to act, one must communicate with them in a way that is directly relevant to their lives.

Appealing to people's aspirations. People respond to many things; reason and logic are important, but emotion and desire matter as well. To encourage farmers to adopt low carbon farming practices, one will need to appeal to their senses of virtue, fairness, and community belonging. Cold appeals to reason and economic opportunity will not be enough.

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[6] *See* Norman Borlaug, Nobel Peace Prize Acceptance Speech (Dec. 10, 1970), *available at* http://nobelprize.org/nobel_prizes/peace/laureates/1970/borlaug-acceptance.html (stating that "I want to devote my remarks to commendation of the Nobel Committee which had the perspicacity and wisdom to recognize the actual and potential contributions of agricultural production to prosperity and peace among the nations and peoples of the world.").

[7] Jim Kleinschmit, *Perspectives on U.S. Agriculture and Carbon Offsets*, INSTITUTE FOR AGRICULTURE AND TRADE POLICY (June 14, 2010), www.iatp.org/iatp/commentaries.cfm?refid=107564.

[8] Lenny Berstein et al., *Climate Change 2007: Synthesis Report, Summary for Policymakers*, INTERNATIONAL PANEL ON CLIMATE CHANGE, 5 fig. SPM.3 (2007), http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pfd (noting that agriculture accounts for 13.5% of global anthropogenic greenhouse gas emissions, while transport and industry account for 13.1% and 19.4% respectively).

[9] American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 501(b) (2009).

Telling a good tale. People act in ways that comport with their understanding of how events are supposed to occur. Framing the issue in a way that clearly indicates how the plot should unfold will influence the actual events in practice. Telling the story in the right way will encourage farmers do their part to reduce greenhouse gas emissions.

Getting the early movers moving. Certain people have a greater proclivity to act before others. Getting the right people going in the right direction at the start can profoundly shape the subsequent activities of the group as a whole.

Making it worthwhile and relatively easy to do. People will act when there are appropriate incentives and the task is clear. Communicating the kinds of actions that need to be taken, and focusing on bringing immediate benefits to farmers who adopt them, will be a powerful tool to reduce agricultural emissions.

This Article focuses on strategies that can be used to motivate the agricultural sector to meet the challenges of reducing greenhouse gas emissions. Beginning with a survey of the predominant themes emerging in deliberations on climate change, as it concerns agricultural emissions, the Article then steps back to provide a theoretical background to the messaging debate, with a focus on the importance of frames in communicating messages. This background is followed by an assessment of the lessons emerging from marketing in both commercial and social enterprise. The Article then turns to a proposed approach to communicate the need to reduce greenhouse gas emissions from agriculture, drawing on the lessons from the messaging debate as well as some of the ideas that emerged from the Green Revolution, the dramatic improvement in agricultural practices in the 1950s and 1960s that helped stem the tide of an impending world hunger crisis.[10] This Article concludes with an assessment of some of the current messaging from the U.S. government.

[10] *See Lessons from the Green Revolution*, FOOD FIRST (Apr. 8, 2000), http://www.foodfirst.org/media/opeds/2000/4-greenrev.html [hereinafter *Lessons from the Green Revolution*].

II. BACKGROUND

A. The Importance of the Issue

Agriculture is one of the largest contributors to greenhouse gas emissions in the United States.[11] According to the U.S. Environmental Protection Agency (the "EPA") "[a]gricultural activities contribute directly to emissions of greenhouse gases through a variety of processes, including the following source categories: enteric fermentation in domestic livestock, livestock manure management, rice cultivation, agricultural soil management, and field burning of agricultural residues."[12]

Agriculture accounted for nearly 6% of total carbon dioxide equivalent emissions in the United States in 2007, corresponding to 413.1 teragrams of Co_2-e.[13] Looking at the various sectors of the economy, only energy has a larger role than agriculture in producing greenhouse gases.[14] Agriculture plays a particularly prominent part with respect to certain greenhouse gas emissions, accounting for 32% of methane emissions (an extremely potent greenhouse gas) and 67% of nitrous oxide emissions.[15] Moreover, agricultural emissions have risen steadily over the past two decades, with 2007 emissions exceeding those in 1990 by approximately 8%.[16] It is worth noting that these figures do not even account for agricultural contributions associated with land use change or energy use.[17]

The numbers for other parts of the world are even more sobering. In 2007, the agricultural sector in New Zealand contributed 48% of the country's emissions.[18] In India, a fairly large emitter of greenhouse gases by international standards, the agriculture sector comprises roughly 31% of the country's total emissions, equal to 379,723 gigagrams of Co_2-e.[19] This is more than 3.5 times the greenhouse gas contributions from industry in India, and dwarfs any other sector of the economy except energy production.[20]

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[11] *See Infra,* notes 12-17.

[12] *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2007, Executive Summary,* ENVTL. PROTECTION AGENCY, ES-12, http://www.epa.gov/climatechange/emissions/downloads09/ExecutiveSummary.pdf (last visited Oct. 5, 2010).

[13] *Id.* at ES-11, tbl.ES-4.

[14] Id.

[15] *Id.* at ES-12.

[16] *Id.* at ES-11.

[17] *Id.* at ES-11, tbl.ES-4.

[18] *New Zealand's Greenhouse Gas Inventory 1990-2007: An Overview,* MINISTRY FOR THE ENV'T, N.Z. GOV'T, 8 (2009), http://www.mfe.govt.nz/publications/climate/greenhouse-gas-inventory-overview-2009/greenhouse-gas-inventory-overview.pdf.

[19] Subodh Sharma et al., *Greenhouse Gas Emissions from India: A Perspective,* CURRENT SCIENCE, Feb. 10, 2006, at 326, 327, tbl.1.

[20] *Id.*

Unlike other economic sectors, particularly the energy sector, greenhouse gas mitigation opportunities in agriculture are not particularly difficult or costly. Carbon reduction activities include planting grasses and trees to sequester carbon, limiting soil tillage to facilitate carbon storage in the soil, practicing superior grazing techniques to limit soil damage and possibly reduce livestock emissions, and using agriculture to produce biofuels.[21] These practices are qualitatively different in risk and cost compared to those in other sectors of the economy. Adopting these low-carbon practices does not require massive investment or entail serious risks, unlike, say, building a nuclear power plant. In fact, many of these low carbon activities bring ancillary benefits, such as the reduction of erosion as a result of conservation tillage.[22]

Carbon credit programs are being developed to provide incentives to adopt low carbon practices on the American farm. Even though it exempts agriculture from the emissions cap, the proposed Waxman-Markey bill creates a program whereby farmers would be compensated for producing carbon credits.[23] The U.S. Department of Agriculture ("USDA") predicts that:

> This could generate gross domestic agricultural and forestry offset revenues of $2 billion per year in real 2005 dollars in the near term, rising to about $28 billion per year in real 2005 dollars in the long term. . . . It appears that in the medium to long term, net revenue from offsets will likely overtake net costs from HR 2454 [the Act], perhaps substantially.[24]

Given this dynamic, it is perhaps surprising that farmers are not making more of an effort to support these measures. But, as can be seen below, many of them are not.

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[21] *Agricultural Practices that Sequester Carbon and/or Reduce Emissions of Other Greenhouse Gases*, ENVTL. PROT. AGENCY (June 22, 2010), http://www.epa.gov/sequestration/ag.html.

[22] Id.

[23] American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 503(b)(1) (2009).

[24] *A Preliminary Analysis of the Effects of HR 2454 on U.S. Agriculture*, U.S. DEP'T OF AGRIC., 11 (July 22, 2009), http://www.usda.gov/oce/newsroom/archives/releases/2009files/HR2454.pdf.

B. Who Is Saying What and Why?

1. The Differing Positions of Agricultural Associations

The American Farm Bureau, the self-styled "Voice of Agriculture," continues to seed doubt about climate change.[25] It argues "politics is driving the [climate change] issue not FACTS!"[26] The farm group opposes proposed cap and trade programs on a number of grounds and maintains that the "climate change proposal is bad for agriculture, bad for farmers and ranchers and will threaten any chances at a meaningful economic recovery!"[27] Despite the fact that the proposed American Clean Energy and Security Act exempts agriculture from coverage under a cap and trade scheme, American Farm Bureau opposes such a scheme on the ground that it "will have an enormous, negative impact on U.S. agriculture."[28]

The National Cattlemen's Beef Association appears to doubt the existence of anthropogenic climate change. According to Tamara Thies, the Cattlemen's chief environmental counsel, "[w]ith so much scientific uncertainty surrounding the question of whether human activity is responsible for climate change, it is inappropriate for the EPA to only consider one side of the debate—especially considering the devastating consequences that their actions could have on an already struggling U.S. economy."[29] Thies continued, "[s]hould EPA move forward, we could find ourselves in a mire of bureaucracy and red tape."[30]

The American Soybean Association is somewhat more sanguine. According to the association, "[i]f Congress moves to enact climate change legislation, it must be structured in a manner that will achieve the desired benefits while maintaining the viability of the U.S. economy and domestic food supply, including U.S. farmers and livestock producers, food & feed processors, and our communities."[31] The soybean growers recognize potential opportunities in biofuel production but appear concerned about the broader economic implications of climate change proposals:

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[25] AMERICAN FARM BUREAU, http://www.fb.org/ (last visited Oct. 15, 2010).

[26] *Don't CAP Our Future Petition*, AMERICAN FARM BUREAU, http://www.fbactinsider.org/petitionView.jsf?petitionUuid=326598EA-35AA-428D-9FB7-181E3858F257 (last visited Oct. 15, 2010).

[27] *Id.*

[28] *Id.*

[29] Bethany Shively, *EPA Should Reevaluate Science Behind Climate Change Endangerment Finding*, NATIONAL CATTLEMEN'S BEEF ASS'N (June 23, 2009), http://www.beefusa.org/NEWSEPAShouldReevaluateScienceBehindProposedClimateChangeEndangermentFinding38952.aspx (responding to a preliminary determination by the EPA that greenhouse gases may be appropriately regulated under the Clean Air Act).

[30] Id.

[31] *Climate Change*, AMERICAN SOYBEAN ASS,N, http://www.soygrowers.com/issues/climate_change.htm (last visited Oct. 25, 2010).

> Policies that attempt to move our country away from fossil fuel energy sources may create new opportunities for agriculture, but also could create significant uncertainty and negative consequences for agriculture and the national economy. Any cap and trade legislation must provide stability, promote the global competitiveness of U.S. agriculture, and not diminish our ability to supply U.S. and foreign consumers with abundant food, feed, fiber, and renewable fuel.[32]

In the vernacular popular in American politics, the American Soybean Association might be considered something of a group of "swing voters."

The American Corn Growers Association sounds a much more upbeat note, at least with respect to energy policy. The Corn Growers group appears to accept the reality of climate change and argues that agriculture should have a greater role in providing renewable energy.[33] According to the association, "[a]griculture has been tapped on the shoulder by the American public and their government to carry us through this difficult time."[34] The group's chairman, Keith Dittrich, offers inspiring rhetoric, arguing that "we have an opportunity to bring our brave soldiers back from the horror of the Middle East and I would bet they would prefer to fulfill their duty to this country by producing renewable energy and food for the planet."[35] Dittrich even took former U.S. Secretary of Agriculture Mike Johanns to task for expressing doubts about the reality of climate change, stating that "Johanns [sic] position is out of touch with nearly all of the scientific community and even his own past Administration."[36]

Like the American Corn Growers, the National Farmers Union is sounding positive notes. According to the Farmers Union, it is "concerned about the effects of climate change and supports a national, mandatory carbon emission cap and trade system."[37] Unsurprisingly, the Farmers Union seeks to have agriculture excluded from the cap, but its positive message about the role agriculture can play in reducing greenhouse gases is encouraging.[38] As the Farmers Union's president explained, "farmers and

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[32] *Id.*

[33] *See* Keith Dittrich, *Agriculture Has a New Calling* (Feb. 20, 2007), http://www.acga.org/index.php?option=com_content&task=view&id=39&Itemid=42 (noting that the new energy policy "finally came out of desperation as the War in the Middle East, climate change and high energy costs have caused policy makers and the public to look for better energy policy.").

[34] *Id.*

[35] *Id.*

[36] *Corn Growers Disagree with Former Agriculture Secretary Johanns' Position on Climate Change*, AMERICAN CORN GROWERS ASS'N (Aug. 27, 2008), http://www.acga.org/index.php?option=com_content&task=view&id=103&Itemid=42.

[37] NAT'L FARMERS UNION, http://nfu.org/ (last visited Oct. 25, 2010).

[38] *See Climate Change*, NAT'L FARMERS UNION, http://nfu.org/issues/environment/climate-change, (last visited Oct. 25, 2010) (supporting a cap on "non-farm" greenhouse gas emissions).

ranchers can be key players in combating global climate change and lead the transition to a clean, renewable energy economy."[39] This stance is a long way from the position articulated by the American Farm Bureau and National Cattlemen's Association.[40]

2. The Agricultural Community's Position as a Whole

Some of the differences in rhetoric can be explained by the varying opportunities and burdens that would arise in a carbon-constrained world. For example, the American Corn Growers stand to largely benefit if the United States adopts biofuels as a pillar of its carbon mitigation strategy, because corn is a central ingredient for these new fuels.[41] The National Cattlemen's Beef Association, by contrast, could face increased costs if agriculture is brought within a regulatory program as livestock emit methane, which as previously noted herein is a powerful greenhouse gas;[42] therefore, cattlemen could face carbon charges associated with these emissions.

Organizational philosophy also helps to elucidate the differing positions. The American Farm Bureau, for instance, stands firmly for private property rights and tends to resist government intervention on the farm.[43] The National Farmers Union, by contrast, seeks to counter the powerful corporate players in the agricultural sector and takes a more collaborative approach to working with the government.[44] These practical and philosophical differences help to explain the groups' respective positions. However, they do not answer the bigger question underlying the debate: who is going to win the hearts and minds of American farmers when it comes to the role they may play in addressing climate change? The answer to that question will rest largely on who is able to get through to farmers in a way that motivates them to take action. It is to that subject which this Article now turns.

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[39] *NFU President Talks Climate Change in Iceland*, NATIONAL FARMERS UNION (Aug. 12, 2009), http://nfu.org/news/2009/08/12/nfu-president-talks-climate-change-in-iceland.html.

[40] Bob Stallman, *A Climate Bill that Won't Change the Climate*, THE AG AGENDA (Sept. 2009), http://www.fb.org/index.php?fuseaction=newsroom.agendafocus&year=2009&file=ag09-2009.html; Shively, *supra* note 29.

[41] Christine Stebbins, *Big Cargill Corn Plant Feeds Green Economy*, REUTERS (Sept. 29, 2010), http://www.reuters.com/article/idUSTRE68S4Y020100929.

[42] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2007, supra note 12.

[43] *See Farm Bureau: Historical Highlights, 1919 - 1994*, AMERICAN FARM BUREAU, http://www.fb.org/index.php?fuseaction=about.history#concerns (last visited Oct. 4, 2010).

[44] *See History*, NAT'L FARMERS UNION, http://nfu.org/about/history (last visited Oct. 4, 2010).

III. AN INTERDISCIPLINARY EXPLORATION OF COMMUNICATION METHODS

With an understanding of the importance of agriculture in reducing dangerous greenhouse gas emissions and the relative positions of some of the leading farm groups, it is time to step back and look into the theoretical constructs that underpin messaging strategies. There are some important observations to be drawn from these theoretical understandings that can be used to formulate a strategy for addressing agriculture's role in reducing greenhouse gas emissions.

A. The Importance of Stories, Framing, and Underlying Value Systems

1. Storytelling

People communicate through stories, and through them, they come to understand what is possible, what is treacherous, and what is downright foolhardy. In his groundbreaking book *The Seven Basic Plots*, Christopher Booker discerns what he considers to be the seven basic plots.[45] Impressive in its breadth (seeming to cover almost the whole world of storytelling), *The Seven Basic Plots*' most meaningful contribution lies in its explanation of the importance of storytelling. Booker asserts that:

> [A]ny ideologue interprets how the world works in terms of a basic story: one which can tell him who are the villains, who the heroes, how he would like the plot to end up. But to a great extent, irrespective of our point of view, the same is true for all of us. And nowhere can we see this more clearly than in the unconscious patterns which shape not only how we 'read' the events of politics and history, but how these dramas themselves are acted out.[46]

Stories, in other words, help one to make sense of the world and in some ways govern how one participates in it. A story allows a person to organize facts, characters, and events into an understandable narrative. One roots for the hero and hopes for the demise of the villain. Further, one is able to comprehend people's relations and grasp their motivations. Most importantly, the listener recognizes which role she wants to play in the story.

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[45] These seven basic plots are as follows: 1). Overcoming the Monster; 2). Rags to Riches; 3). The Quest; 4). Voyage and Return; 5). Comedy; 6). Tragedy; and 5). Rebirth. CHRISTOPHER BOOKER, THE SEVEN BASIC PLOTS: WHY WE TELL STORIES, 21-215 (2004).

[46] *Id.* at 573.

But stories run deeper as well. According to Booker, stories help to shape the collective consciousness.[47] One views the world through the lens of the stories she knows and may also shape the collective consciousness by telling her own stories of one type or another. If one wants something to succeed, she tells stories of success in analogous ventures. If she wants something to fail, she portends disaster through stories of terrible failures. In effect, one guides the plot by telling stories about how she thinks it will turn out.

As will now be discussed, storytelling is becoming in vogue, and changing the way people think about the way they think. While appearing under different names, framing is often the terminology used in explaining the importance of storytelling.

2. Framing

It has long been thought that people are rational actors who respond to facts and logic. However, more recently, research has shown that people are not necessarily coldly rational and that they respond to things other than hard facts and structured reasoning.[48] Facts and figures are still relevant; it is just that the way they are presented may be equally relevant. Framing, which is, in short, the way that things are presented, has been shown to have a powerful effect.

In their groundbreaking research, Drs. Tversky and Kahneman demonstrated the importance of framing on people's decision-making processes.[49] In a classic study, people were given the option to choose among several programs to combat a hypothetical outbreak of a dangerous disease.[50] In each case, the expected utility of the programs was identical, that is, the probable number of lives saved was the same irrespective of the program chosen.[51] However, people were far more likely to choose one program over another, depending on how it was framed. For example, when there were 600 people affected in the hypothetical disease outbreak, study participants were far more likely to choose a program when they were told that "200 people would be saved" as opposed to one in which they were told "400 people would die" despite the fact that the outcome is identical.[52] Framing matters.

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[47] *Id.* at 590-91.

[48] Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 453 (Jan. 30, 1981).

[49] *See id.*

[50] *Id.*

[51] *Id.*

[52] *Id.*

3. The Metaphysics of Messaging: the Underlying Psychology of Right and Left

Dr. George Lakoff, a linguist at the University of California, Berkeley, has explored the somewhat discordant themes often present in politics. Dr. Lakoff attempts to provide unifying frames to explain people's perspectives.[53] According to Lakoff, people's political perspectives are deeply influenced by their views of families, particularly whether they adhere to a "strict father" or "nuturant parent" model.[54] Dr. Lakoff has observed that conservatives tend to believe in the strict father model, while liberals lean toward the nuturant parent model.[55]

Interestingly, Booker reaches a similar conclusion in his assessment of storytelling and its effects on the collective conscious. In analyzing political perspectives, he claims that:

> The right wing view rests chiefly on the masculine values, centered on the exercise of power and the maintenance of order; what may be called the values of 'Father;.. . . The left wing rests essentially on the feminine values of feeling and understanding, what may be called the values of 'Mother,' in which it perceives the ruling order and the right wing view in general to be so heartlessly deficient.[56]

Lakoff, like Booker, thinks these worldviews profoundly influence the way people process information. As Lakoff explains in *Moral Politics*,

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[53] GEORGE LAKOFF, MORAL POLITICS: WHAT CONSERVATIVES KNOW THAT LIBERALS DON'T 3 (1998) [hereinafter LAKOFF, MORAL POLITICS]. In the acknowledgements to *Moral Politics*, a book in which Dr. Lakoff ventures into the importance of frames in understanding political discourse, he offers this interesting anecdote: "This book began with a conversation in my garden several years ago with my friend the late Paul Baum. I asked Paul if he could think of a single question, the answer to which would be the best indicator of liberal vs. conservative political attitudes. His response: 'If your baby cries at night, do you pick him up?' *Id.* at xi.

[54] *See* George Lakoff, Don't Think of an Elephant!: Know Your Values and Frame the Debate 6 (Collette Leonard et al. eds., 2004) [hereinafter Lakoff, Don't Think of an Elephant!].

[55] *See id.* at 9, 13.

[56] BOOKER, *supra* note 45, at 575. Booker makes the further interesting observation about the way people's political views change over their lifetimes:

> We see this same division between the values of "Father" and "Mother" in the way people's political views tend to change over the years: that general human tendency to follow the pattern summed up in the maxim of Huey Long, the one-time governor of Louisiana, that "every man's political career reads like a book, from left to right." When people are young, unsettled, just starting on the ladder of life, they are more inclined to take a "feminine," "below the line" view; to be idealistic, to feel deeply the injustices of the world, to rebel against what they see as the constraints of discipline, established convention and the stern values of "Father." When, as they grow older and more mature, they themselves become more established, with more experience of the world, they are inclined to take a more masculine, "above the line" view. Idealism gives way, as they would see it, to realism. They come to appreciate the conservative values of discipline, tradition and order. They at last see the point of those values of "Father" (not least because they may well have been through the educative experience of being a parent themselves). It was this familiar shift taking place in people's psychic perspective which gave rise to Bernard Shaw's famous dictum that "anyone who is not a socialist at twenty has no heart, anyone who is not a conservative at forty has no head." *Id.* at 575-576.

"[c]ontemporary American politics is about worldview. Conservatives simply see the world differently than do liberals, and both often have a difficult time understanding accurately what the other's worldview is."[57]

In the environmental context, Dr. Lakoff argues that liberals and conservatives have a fundamentally different view of nature. Conservatives consider man to have dominion over nature, much like a father has dominion over his children, and view the earth as a resource to be exploited and conserved, where appropriate.[58] Liberals, on the other hand, view nature as a mother, as "what gives us life, what makes all of life possible, and what sustains us," and, accordingly, should be protected and restored to health.[59] Given these different viewpoints, it is not surprising that people with contrasting worldviews respond to environmental messages differently. A person who considers it his natural right to use the land for his own benefit will react differently to an environmental initiative than one who thinks that nature should be preserved in its natural state. "When one steps back for a moment and takes a look at conservative and liberal moral systems, it becomes apparent that the issue is not people versus owls or market forces versus the EPA, but two utterly opposed moral visions of the proper relation of man to nature."[60]

However, despite their differences, it is not inevitable that the two sides remain at an impasse. The reason is that most people have both strict and nuturant models in their brains, according to Lakoff.[61] The challenge is to communicate with people in ways that are consistent with their worldviews, ways that fit within their "*deep frames*."[62] Understanding these frames provides a gateway into the person's conception of the issue. If we understand that people reason using "frames, prototypes, image-schemas, and metaphors" and that they also rely on emotion, we should be able to communicate with them in a more effective way.[63] Lakoff has built upon this underlying premise to flesh out ideas for political communications.[64] As Matt Bai of the New York Times explained:

> The most compelling part of Lakoff's hypothesis is the notion that in order to reach voters, all the individual issues

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[57] LAKOFF, MORAL POLITICS, *supra* note 53, at 3.

[58] *Id.* at 213.

[59] *Id.* at 215.

[60] *Id.* at 221.

[61] George Lakoff, *Framed*, THE NEW REPUBLIC, July 11&18, 2005, at 4 (responding to a statements made by Noam Scheiber in *Wooden Frame*).

[62] George Lakoff, *Defending Freedom*, THE NEW REPUBLIC (Oct. 16, 2006, 12:00 am), http://www.tnr.com/print/article/politics/defending-freedom [hereinafter *Defending Freedom*] (quoting *Thinking Points*, another of his books, to explain that deep frames "are the most basic frames that constitute a moral worldview or a political philosophy. Deep frames define one's overall 'common sense.'").

[63] *Id.*

[64] *See, e.g.*, Lakoff, Don't Think of an Elephant!, *supra* note 54; George Lakoff, Whose Freedom: The Battle Over America's Most Important Idea (2006).

> of a political debate must be tied together by some larger frame that feels familiar to us. Lakoff suggests that voters respond to grand metaphors — whether it is the metaphor of a strict father or something else entirely — as opposed to specific arguments, and that specific arguments only resonate if they reinforce some grander metaphor.[65]

B. Others Can Play At That Game: the Burgeoning Field of Behavioral Law and Economics

These issues extend beyond the way people talk about things. *Behavioral Law and Economics* explores "the implications of actual (not hypothesized) human behavior for the law," that is, "[h]ow ... 'real people' differ from *homo economicus*."[66] It is a broad and deep topic that exceeds the bounds of this Article, but some salient points weigh directly on the issues explored here.

First and foremost, the bedrock assumption of neoclassical economics that people are strictly rational optimizers of personal utility is now being questioned.[67] Behavioral economics recognizes that "[p]eople are frequently both unselfish and overly optimistic; they have limited willpower and limited self-control; and they often rely on mental shortcuts and rules of thumb."[68] In essence, behavioral economics offers a more complicated and unruly picture of human behavior that calls into question the underlying assumptions of neoclassical economics.[69]

1. Aspirational Needs: Fairness and Self-Sacrifice

Despite the complexity of human decision-making, clear patterns of behavior are starting to emerge. For example, people are willing to forego individual gain if they perceive that another is gaining unfairly as a result of the transaction.[70] The results of the classic ultimatum game illustrate this point.[71] From the neoclassical economic perspective, the person who has

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[65] Matt Bai, *The Framing Wars*, THE NEW YORK TIMES MAGAZINE (July 17, 2005), http://www.nytimes.com/2005/07/17/magazine/17DEMOCRATS.html.

[66] Christine Jolls, Cass R. Sunstein & Richard H. Thaler, *A Behavioral Approach to Law and Economics, in* BEHAVIORAL LAW AND ECONOMICS 13, 14 (Cass R. Sunstein, ed., 2000) [hereinafter *A Behavioral Approach to Law and Economics*].

[67] *See id.* at 15.

[68] Cass R. Sunstein, *Preface* to BEHAVIORAL LAW AND ECONOMICS (Cass R. Sunstein, ed., 2000).

[69] A Behavioral Approach to Law and Economics, supra note 66, at 15, 22.

[70] *Id.* at 22.

[71] *Id.* at 21-23. In the game, one subject is given a certain amount of money, say, $10. Another subject is given nothing. The person in receipt of the money is to offer the other person an amount of his choosing, for instance, $2. If the recipient of the offer accepts, the transaction is complete and each person retains the agreed upon amount ($8 for the person who originally was given $10, and

nothing should be prepared to accept any offer because he would be better off than before. However, people do not actually act this way because they see that the other person has unfairly benefited from the transaction; instead, they tend to demand approximately one-third of the original amount allocated.[72] As the authors explain, "[t]he ultimatum game results show that people will often behave in accordance with fairness considerations even when it is against their financial self-interest *and no one will know*."[73] Conventional economic theory cannot explain this behavior.

2. Mental Shortcuts: Availability Heuristics and Cascades

Another interesting and relevant pattern of behavior is the "availability heuristic." The availability heuristic rests upon the notion that people have bounded rationality (that is, they cannot know everything about everything) so they need to rely on mental shortcuts.[74] The availability heuristic stands for the proposition that "the perceived likelihood of any given event is tied to the ease with which its occurrence can be brought to mind."[75] Interestingly, this phenomenon can be manipulated through various social mechanisms to generate availability cascades, "[s]ocial cascades, or simply cascades, through which expressed perceptions trigger chains of individual responses that make these perceptions appear increasingly plausible through their rising availability in public discourse."[76]

Availability cascades include two derivative cascades: informational and reputational.[77] Informational cascades are an efficient form of information gathering, i.e. when one lacks personal information, one relies on outside information to accept their own personal beliefs "by virtue of acceptance by others."[78] It is a version of the "wisdom of crowds."[79] Reputational cascades, on the other hand, are less about

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$2 for the person who accepted the offer). However, if the parties cannot agree, neither party receives any money. *Id.* at 21-22.

[72] *See id.* at 22-23 (the numbers quoted above are a rough average of the amounts demanded from students who originally contributed $5 to the experiment (the sunk-cost version) at the University of Chicago and Massachusetts Institute of Technology, this experiment, however, has been repeated in various circumstances with generally consistent results. Those participating in the game as originally played, averaged a demand of $1.94).

[73] *Id.* at 23.

[74] Timur Kuran & Cass R. Sunstein, *Controlling Availability Cascades*, *in* BEHAVIORAL LAW AND ECONOMICS 374, 374 (Cass R. Sunstein, ed., 2000) [hereinafter *Controlling Availability Cascades*].

[75] *Id.*

[76] *Id.*

[77] *Id.*

[78] *Id.* at 374-75.

[79] *See generally* JAMES SUROWIECKI, THE WISDOM OF CROWDS (2004) (discussing the "collective wisdom" and its impact upon societies and its business structures).

information and more about peer acceptance.[80] As Kuran and Sunstein explain, "the motivation is simply to earn social approval and avoid disapproval."[81]

With both informational and reputational cascades, "availability entrepreneurs" understand availability cascades and seek to create cascades to advance a particular agenda (for selfish or altruistic reasons) by "fixing people's attention on specific problems, interpreting phenomenon in particular ways, and attempting to raise the salience of certain information."[82] As these authors explain, proactive individuals can create cascades: if Party A believes a certain proposition, he may publicize his views along with supporting information, Party B may accept it if he does not have any information to the contrary, Party C may likewise accept it if he seeks the acceptance of Parties A and B, so on and so forth.[83] Once a certain viewpoint is accepted, it may be difficult to reverse it.[84]

Not surprisingly, those who subscribe to the behavioral philosophy often end up in a similar place to those who follow the Lakoff model. As Thaler and Sunstein suggest, "[a]n important element of the cognitive psychological theory of outcome valuation is called the *framing effect*. The manner in which people value outcomes depends on how an outcome is characterized or presented ("framed")."[85]

Thaler and Sunstein published a popular book in which they sought to make use of some of the ideas emerging from behavioral economics. In *Nudge*, the authors argue that people can be steered to better decisions (e.g., decisions that will enhance their health, wealth, and happiness) by shaping the context in which they make their decisions.[86] For example, recognizing that people are likely to maintain the status quo, prone to punish people for behaving unfairly (even though it costs them to do so),[87] and inclined to make decisions based upon their experiences, one can provide tools to steer them to the decisions they would make if they thought through an issue thoroughly. The notion is referred to as "choice architecture," or the design of the organizational context in which people make decisions.[88] For example, if one thinks that someone should choose a certain program, she should structure the process so that the person must opt-out of the program

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[80] Controlling Availability Cascades, supra note 74, at 375.

[81] *Id.*

[82] *Id.*

[83] *Id.* at 383.

[84] *See id.* at 377 (explaining the deeply held beliefs that Love Canal is an environmental "time bomb" despite evidence to the contrary).

[85] Roger G. Noll & James E. Krier, *Some Implications of Cognitive Psychology for Risk Regulation*, *in* BEHAVIORAL LAW AND ECONOMICS 325, 330 (Cass R. Sunstein ed., 2000).

[86] *See* Richard H. Thaler & Cass R. Sunstein, Nudge: Improving Decisions About Health, Wealth, and Happiness 5-10 (2008).

[87] A Behavioral Approach to Law and Economics, supra note 66, at 23.

[88] *See* THALER & SUNSTEIN, *supra* note 86, at 3.

as opposed to opt-in to it.[89] If one thinks someone should take one action over the other, she should create a situation where it seems that they would be bucking a trend to do otherwise. These ideas are simple tools that recognize people's pre-dispositions and take advantage of the fact that people can be steered toward common good. It is not dissimilar to what Lakoff attempts with his communication frames.[90]

C. Marketers Are More Sophisticated Than You Think

At this point, we surface from the depths of cognitive science and turn to the more pedestrian practice of marketing. Marketers have been practicing the art of getting people to do what they want them to, buy things, for years. And it appears that selling things is not that different from communicating ideas or steering people to make better decisions.

Marketing is aimed at "identifying and meeting human and social needs."[91] Importantly, a "marketer must try to understand the target market's needs, wants, and demands."[92] An individual's needs range from basic requirements like food and shelter to more subtle needs such as the need to be viewed as an upstanding member of the community.[93] Therefore, marketing is not just about selling products; it is about giving people what they need. For example, Charles Revson of Revlon once remarked, "[i]n the factory, we make cosmetics; in the store we sell hope."[94]

1. What Marketers Do

Cultural, social, and personal factors shape people's needs, with cultural influences being of greatest importance.[95] Social classes, groups, lifestyles, and personalities of individuals have profound effects on their needs.[96] For example, some feel that it is absolutely essential to own a Mercedes because it is "who they are" while others are content to drive a more economical car. People act on their beliefs and value systems, which in turn are shaped by myriad forces, when they make decisions.[97]

People also employ filters to sort through the information they encounter each day. For example, they rely on "selective distortion" to help

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[89] *Id.* at 83.

[90] *See generally* Lakoff, Moral Politics, *supra* note 53; Lakoff, Don't Think of an Elephant!, *supra* note 54.

[91] Phillip Kotler & Kevin Lane Keller, Marketing Management 24 (12th ed. 2006).

[92] *Id.*

[93] *Id.*

[94] *Id.* at 9.

[95] *Id.* at 174.

[96] *Id.* at 174-184.

[97] *See* KOTLER & KELLER, *supra* note 91, at 180.

them understand new information by fitting it with their preconceptions.[98] As a result, people tend to retain information that squares with their attitudes and beliefs.[99] If people respect a certain brand, they are more likely to remember positive aspects of its products and forget the good parts of competing brands.[100] People may also be better able to recall information if they have some association with it.[101] The recollection is likely to be strongest if they have personal experience with the product.[102] Association can also be derivative, as in the case of celebrity endorsements.[103]

Information sources are important as well. People tend to trust public sources that they perceive as independent,[104] and possibly similar to themselves. For example, Consumer Reports has built an enterprise through offering independent advice on major purchasing decisions.[105] Also, Zagat has cultivated a widespread following by enlisting people to review restaurants at which they have dined.[106] In the climate change context, T. Boone Pickens, a former oilman, has emerged as something of a cult figure as he has spoken out about the need to reduce reliance on oil.[107] The messenger matters, too.

Getting through to people, however, is not enough to get them to do something. A marketer must help them decide. Like the behavioral economists, marketers are beginning to understand that people rely on "rules of thumb," also called heuristics, to make decisions.[108] Marketers understand the importance of the availability heuristic, which as noted before, influences the perceived likelihood of an event based upon "the quickness and ease with which a particular example of an outcome comes to mind."[109] Marketers also recognize that the representative heuristic allows people to "base their predictions on how representative or similar the outcome is to other examples,"[110] which explains, among other things, the reason that packaging of different brands within the same product category

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[98] *Id.* at 186 ("Selective Distortion is the tendency to interpret information in a way that will fit our preconceptions.").

[99] *Id.*

[100] *Id.*

[101] *Id.* at 189.

[102] *Id.*

[103] KOTLER & KELLER, *supra* note 91, at 189-190. If you associate with Michael Jordan, for example, you might recall the type of tennis shoes he wears despite the fact that you have never worn them yourself.

[104] *Id.* at 192.

[105] *See* CONSUMER REPORTS, http://www.consumerreports.org/cro/index.htm (last visited Oct. 8, 2010).

[106] *See* ZAGAT SURVEY, http://www.zagat.com (last visited Oct. 8, 2010).

[107] *A Surprising Environmentalist,* T. BOONE PICKENS HIS LIFE. HIS LEGACY. http://www.boonepickens.com/helping/default.asp (last visited Oct. 8, 2010).

[108] *See* KOTLER & KELLER, *supra* note 91, at 201.

[109] *Id.*

[110] *Id.*

(e.g., washing powder) is often so similar. Finally, the anchoring and adjustment heuristic explains how "consumers arrive at an initial judgment and then make adjustments of that first impression based on additional information."[111]

The foregoing marketing lesson explains ways to appeal to one's consciousness, to communicate with her in receptive ways and to guide her decisions by understanding the mental shortcuts she takes. Understanding what people want helps in selling things to them, but it can be used in selling things other than products.

2. Selling Ideas

Social marketing is the "systematic application of marketing concepts and techniques to achieve specific behavioral goals relevant to a social good."[112] In other words, social marketing uses the tools of marketing to get people to act in certain ways as opposed to just buying products. In short, it aims to influence public behavior.[113] Perhaps the most interesting thing about social marketing is that it is almost identical to commercial marketing. Both rely on segmenting and targeting particular market segments, identifying clear goals and strategies to achieve them, using the four Ps (product, price, place, and promotion), and communicating ideas in interesting ways.[114] All of the lessons outlined above are equally applicable to social marketing.

Kotler and Lee suggest the following principles for success in social marketing:

> *Start with target markets most ready for action.* All too often we set out to convince the people most opposed to us rather than focusing on those ready to take our side. As noted in the discussion concerning "cascades," we may be able to increase the chances of everyone undertaking an activity if we can convince certain people to commence it; therefore, it is best to start with those most willing to act.[115] This would mean starting with people in the agricultural

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[111] *Id.* The anchoring phenomenon has been illustrated through the introduction of arbitrary numbers into an unknown situation, which in turn influences people's reactions. For example, experimental subjects were asked to estimate a value (e.g., the percentage of African countries in the United Nations). If they were asked, "is it more than 10%?" they would provide a lower estimate, on average, than if they were asked "is it less than 65%?" People's estimates are biased toward the initial value, irrespective of its relevance. *See* Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124, 1128 (1974).

[112] Philip Kotler & Nancy R. Lee, Social Marketing: Influencing Behavior for Good 8 (3rd ed. 2008) (quoting Jeff French & Clive Blair-Stevens, Social Marketing Pocket Guide 4 (1st ed. 2005).

[113] *Id.* at 11.

[114] *Id.* at 14.

[115] *Id.* at 52.

community that are predisposed to act in an attempt to establish momentum for the community as a whole.

Promote single, simple, doable behaviors – one at a time. It is very easy to be overcome by an obstacle, in particular in the climate change context. One might raise awareness about it, but fail if they neglect to provide solutions capable of easy implementation.[116] It is obviously better to give people a solution to a problem (such as, adopting no-till agriculture), especially if they are primed to act and are just awaiting instructions.

Identify and remove barriers to behavior change. Often people do not engage in a socially desired activity because something rather simple stands in their way.[117] It may be that farmers are not adopting carbon-friendly technologies because they are bound to older technologies. By understanding what is holding them back, we may be able to remove the barriers to change.[118]

Bring real benefits into the present. Because of people's inherent tendency to discount future events, especially compared to immediate costs, it is desirable to bring immediate benefits. [119] This may mean simply recognizing carbon-friendly individuals as responsible actors among their peers or establishing a transferable carbon credits system in the climate change context.

Highlight costs of competing behaviors. It is important to bring the downsides of the present course of action to the attention of the target audience.[120] The threats of climate change are so serious that one should be cautious not to frighten the audience into inaction. There is a fine line between providing sufficient justification for aggressive action and scaring someone into a state of paralysis.

Promote a tangible good or service to help target audiences perform the behavior. People sometimes need to

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[116] *Id.* at 53 ("A simple, clear, action-oriented message is most likely to support your target market to adopt, reject, modify, or abandon a specific behavior. Your message should help the target audience know exactly what to do and whether it has been accomplished).

[117] *Id.* at 54 (stating that knowledge of the target market members' barriers should be considered a gift with which to make the approach more effective).

[118] KOTLER & LEE, *supra* note 112, at 54.

[119] *Id.* at 55.

[120] *Id.* at 56.

see to believe.[121] Part of the success of the Green Revolution, which is covered in greater depth below, rested on the fact that farmers demonstrated to other farmers the benefits of improved agricultural techniques.[122]

Consider non-monetary incentives in the form of recognition and appreciation. Social marketing is littered with examples of non-monetary incentives (such as the "I Gave Blood" sticker one gets when she donates blood) because they are inexpensive and effective. A "Carbon Friendly Farmer" certification program might prove beneficial as people often only want to be recognized and valued for doing something good.[123]

Make access easy. People are time constrained. The easier it is for one to undertake the desired activity or get the advice they need to do so, the more likely she is to act.[124] As outlined below, the EPA is providing useful tools to help companies reduce their emissions. The same types of tools should be made available to farmers.

Have fun with messages. One of the tried and tested rules of commercial marketing is that people pay attention to humor, when it is appropriate.[125] One has to be careful when dealing with serious matters like climate change, but if the mood can be lightened, the message is more likely to get through to people.

Use media channels at the point of decision making. People are constantly processing information, and if the desired information is available when the decision is being made, it is more likely to be relied upon.[126] For example, if a farmer is going to decide whether to plow his fields or rely on no-till practices, it is probably best to provide him with information when he is preparing to make this decision (e.g.,when he is purchasing farm equipment).

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[121] *Id.* at 57.

[122] C. Subramaniam, The New Strategy in Indian Agriculture: the First Decade and After 50 (1979).

[123] KOTLER & LEE, *supra* note 112, at 58.

[124] *Id.* at 59 (providing an example of one city's efforts to conserve water by delivering high-quality showerheads and easy-to-follow instructions to the doors of 300,000 residents. These efforts resulted in a 65% rate of installation, the highest rate of installation of water-efficient showerheads in the country).

[125] *Id.* at 59-60.

[126] *Id.* at 61.

Try for popular/entertainment media. People often trust popular media figures such as radio hosts or sports figures. These figures are often one of the best messengers to get through to people.[127] It would not be difficult to identify the types of people that farmers listen to, and enlist them in the effort to engage farmers in an effort to reduce greenhouse gas emissions.

Get commitments and pledges. If people make a pledge to undertake an activity, they are far more likely to do so because they want to uphold their word.[128] Getting people to commit to even a small activity, such as planting vegetative buffers to sequester carbon and reduce runoff, may be the first step to more fundamental transformations.

Use prompts for action. People also tend to be forgetful. They may fail to carry out a desired activity simply because they forget.[129] Simple reminders (similar to the safety reminders on dangerous equipment) may provide the extra nudge needed to get people on the right course.[130]

Track results and make adjustments. As with any campaign, one must measure progress and adjust where necessary. It is important to compare actions against goals and revise tactics when required.[131]

3. Getting the Word Out

One final lesson from the marketing world concerns how to communicate with people. Marketing communications are the "means by which firms attempt to inform, persuade, and remind customers – directly or indirectly – about the products and brands that they sell."[132] The practice of communicating to the target market is equally applicable in commercial and social marketing. As Kotler and Keller explain, to be effective, communications must adhere to the following model: "[s]enders must know what audiences they want to reach and what responses they want to get. They must encode their messages so that the target audience can decode them. They must transmit the message through media that reach the target audience and develop feedback channels to monitor the responses."[133]

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[127] *Id.* at 62.
[128] *Id.* at 63.
[129] KOTLER & LEE, *supra* note 112, at 64.
[130] *Id.*
[131] *Id.* at 65.
[132] KOTLER & KELLER, *supra* note 91, at 536.
[133] *Id.* at 539.

It is important to recall the biases and distortions present in the target markets when developing communication messages. As noted earlier, people will exhibit selective attention, selective distortion, and selective retention when processing information.[134] It is therefore important to tailor messages in ways that fit with what people want to hear and what they are likely to respond to. As with social marketing, some general tips exist to formulate effective communications:

> *Identify the target audience.* It is critical to identify the group to whom the communications are directed. The "target audience is a critical influence on the communicator's decisions on what to say, how to say it, when to say it, where to say it, and to whom to say it."[135]
>
> *Determine the communications objectives.* It is also important to establish the objectives of communications. When styling a communications campaign, one must be clear not only about what they are going to say but also why they are going to say it.[136]
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> *Design the communications.* In fashioning communications, one may draw upon different types of appeals. For example, a communicator may aim to utilize an informational appeal and rest his communications strategy on informational conveyance.[137] In addition, the communicator may rely on transformational appeals and attempt to stir up emotions that will lead to the desired behavior.[138] It should be remembered that the more credible the source, the more receptive the target audience is likely to be.[139]
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> *Select the communications channels.* In today's world, people are exposed to multiple communications channels. Personal communications are often the most effective, especially if the communicator is known to the audience member. It is especially effective if certain types of people —in particular, other users themselves — become spokespersons or reference points.[140]

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[134] *Id.* at 540.
[135] *Id.* at 541.
[136] *See id.* at 542-43.
[137] KOTLER & KELLER, *supra* note 91, at 544.
[138] *Id.* at 544-545.
[139] *See id.* at 546.
[140] *See id.* at 548.

D. Summing Up

This Article has drawn from the experts in the fields of linguistics, politics, behavioral economics, and marketing, to discover lessons about human behavior. From the behavioral economics perspective, discussion was centered around the reasons people act the way they do, and from the marketing discussion, insights into the art of persuasion were gained. Some of the salient points to emerge from these analyses are as follows:

> People are not robots and they have multi-faceted needs. People rely on logic and reason but they are more complicated creatures than that. People are motivated to meet their most basic needs while also seeking to fulfill more aspirational desires. Cultural influences are paramount; therefore, appeals to virtue and belonging can have powerful effects.[141]
>
> Storytelling and framing are important. Stories provide a narrative that explains the events encountered throughout life, the roles played, and what should be done in various circumstances. In addition, they help to provide examples of analogous events and provide direction when encountering new terrain.[142] As with stories, frames deeply influence the way people perceive things. If they consider a proposal to be contrary to their worldview, they are likely to reject it even if they would benefit under the proposal.[143]
>
> Who talks and how they speak is important. People listen to people they trust. Furthermore, they are more likely to listen to such trusted advisors if they speak in a way that a person can relate to.
>
> People use shortcuts and like to go along with the crowd. People are not necessarily capable of processing all the available information to make the "right" choice. Instead, they are likely to rely on mental shortcuts and are pre-disposed to go along with the crowd.[144]
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> People need occasional nudges to keep them going in the right direction. The world is a complicated place, and everyone is overburdened with responsibilities. The easier

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[141] KOTLER & KELLER, *supra* note 91, at 174.
[142] BOOKER, *supra* note 45, at 590-591.
[143] *See* Lakoff, *supra* note 62.
[144] *See* Kuran & Sunstein, *supra* note 74, at 374.

> and more rewarding the task and the easier it is to remember to do it, the more likely it is to be done.

IV. APPLICATION: LOOKING TO THE PAST TO GUIDE THE FUTURE

At this stage, this Article turns from theory to practice, keeping in mind the lessons articulated thus far. It outlines possible ways to motivate action in the agricultural sector to address climate change. The Article draws upon the lessons from the Green Revolution (the dramatic increase in food production in many parts of the world, most notably India, in the 1950s and 1960s), as it provides a clear example of overcoming obstacles and inertia to achieve tremendous societal gains through agriculture. Finally, the Article builds upon the lessons learned to devise a strategy to prompt action in the agricultural sector in the United States to reduce greenhouse gas emissions.

The following is a general outline of the key elements of strategy to reduce agricultural greenhouse gas emissions. It begins with ways to communicate with people, considers the kinds of people to focus on, and concludes with proposals to make low carbon decisions worthwhile to individual actors.

A. Communicate with People on a Personal Level: The Space Race

One of the most striking features of the climate change debate is how technocratic it is. Of course, climate change is a scientific phenomenon so some technical discourse is inevitable. But, one seeking to prompt action to address climate change must realize that she is not going to motivate people to action by burying them in graphs, statistics, and probabilities. People were not motivated to go to the moon because someone talked about the specific gravity of the atmosphere. Instead, as President Kennedy stated in his 1962 "Moon Speech":

> We choose to go to the moon . . . and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too.[145]

A similar level of rhetoric is required for the climate change debate. Arguably the closest we have come to a widespread communication success is Al Gore's film *An Inconvenient Truth*, which centers on a fairly technical

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[145] President John F. Kennedy, *Rice Stadium Moon Speech* (Sept. 12, 1962), *available at* http://er.jsc.nasa.gov/seh/ricetalk.htm.

PowerPoint presentation.[146] A "Moon Speech," it is not. President Obama, a master rhetorician, has struck a bit closer to the mark by urging people to rise to meet the challenges of climate change. As he explained following the passage of the Waxman-Markey Act in the U.S. House of Representatives:

> The American people I believe want us to make the right choice, and I'm confident that the Senate will. For at every juncture in our history, we've chosen to seize big opportunities – rather than fear big challenges. We've chosen to take responsibility. We've chosen to honor the sacrifices of those who came before us – and fulfill our obligations to generations to come. That's what we're going to do this time, as well.[147]

But the overall level of messaging, especially at the everyday level, remains fairly technical, nightmarish, and self-sacrificial. It is all about using science to try to convince people that climate change is real, to terrify them about the implications of a warming planet, and to ask them to compromise their quality of life. It is hardly motivating. As Anthony Giddens explains in his book The Politics of Climate Change:

> [n]o strategy is likely to work which concentrates solely upon provoking fear and anxiety, or which is based not only on instructing people to cut down on this or that, but also expecting them to monitor that process on a continuous basis.

A different approach is needed from that prevalent at the moment. It must place more emphasis on positives than the negatives, and on opportunities rather than self-induced deprivations.[148]

B. Appeal to People's Aspirations: Rosie the Riveter

It is worth remembering that people's needs are varied, and range from the most elemental, food and shelter, to the more advanced, a sense of self-worth.[149] It is in addressing the higher level needs that climate change messaging is likely to be most effective. This type of messaging was effectively deployed by the United States during World War II.

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[146] *See An Inconvenient Truth: The Film*, CLIMATE CRISIS, http://www.climatecrisis.net/an_inconvenient_truth/about_the_film.php (last visited Oct. 5, 2010).

[147] President Barack Obama, Remarks After Meeting With Energy CEOs (July 2, 2009), *available at* http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-After-Meeting-With-Energy-CEOs/.

[148] Anthony Giddens, The Politics of Climate Change 106 (2009).

[149] Kotler &Keller, *supra* 91, at 24.

The United States succeeded in bringing more women into the workforce during World War II, by appealing to higher-level needs. The Rosie the Riveter campaign, with the tag line "We Can Do It!" appealed to a sense of patriotism as well as feminist values.[150] Women entered the workforce in droves following the campaign, helping to win the war and forever changing workplace stereotypes.[151] It was a tremendous communications success that has become deeply embedded in the nation's identity.

The question now is how to best communicate to farmers the need to alter their farming practices to reduce greenhouse gas emissions. One possible avenue is through direct appeals to virtue. As explained in Appendix I: *Paragons of Virtue*, farmers are often held up as examples of virtuous citizens, and messaging strategies should build upon the idea that farmers are the foundation of the country.[152] The American Corn Growers association is hitting the right notes. Its notion that "[a]griculture has been tapped on the shoulder by the American public and their government to carry us through this difficult time" is exactly the right kind of message to appeal to farmers' senses of virtue and duty.[153] The group is explaining to farmers the seriousness of climate change and helping them to understand that they can contribute in meaningful ways toward solving the problem. It is a recipe for success.

C. Tell a Good Tale: The Green Revolution

Stories and frames will be crucial in advancing the climate change agenda within the agricultural sector. As discussed above, stories help people understand new information and guide them in acting out the drama of life itself. They also help people to make decisions as they inform and influence mental shortcuts, in particular influencing the availability and representative heuristics. If people know the story of an analogous event, they are likely to act in a way that seeks to ensure the present situation unfolds in a similar way.

Farmers need to be reminded of their power to do good. All too often, farmers are the subject of criticism and blame. They are ridiculed for planting genetically modified seeds when the environmental effects are

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[150] *See* Kevin Cullen, *Rosie's Proud of Her Band of Sisters*, SEATTLE TIMES (May 30, 2004), http://community.seattletimes.nwsource.com/archive/?date=20040530&slug=rosie30; *The Real Story of Rosie the Riveter: A Ford Motor Company Employee*, FORD MOTOR COMPANY, http://www.ford.com/about-ford/heritage/people/rosietheriveter/657-rosie-the-riveter (last visited Oct. 5, 2010).

[151] *See The Real Story of Rosie the Riveter: a Ford Motor Company Employee*, FORD MOTOR COMPANY, http://www.ford.com/about-ford/heritage/people/rosietheriveter/657-rosie-the-riveter (last visited Oct. 5, 2010).

[152] *See infra* Appendix I: Paragons of Virtue

[153] Dittrich, *supra* note 33.

unknown and are denounced as "fat cats" living off the government teat.[154] They are rarely reminded of the fact that they are providing an essential service to mankind. It is here that the story of the Green Revolution will be of most value. (For more, see Appendix II: *A Green Revolution Unfolds.*)[155] The Green Revolution narrative provides a clear path forward for agriculture. By embracing technological advances and risks associated with new crops, farmers were able to leap forward in their productive capacities as part of the Green Revolution. If farmers feel that they can do something concrete to help address climate change, to be a hero rather than a villain, they are likely to seize the opportunity. The Green Revolution story will need to be refreshed and massaged to fit the climate change challenge, but the narrative provides a powerful message: "We can do this because we've done it before."

D. Get the Early Movers Moving

Some people are likely to jump at the chance to freshen up the face of farming by adding carbon reduction to the portfolio of benefits offered by agriculture. Others are likely to dig in their heels and fight any changes to the bitter end. Think of the differences in the rhetoric being employed by the American Corn Growers Association, "a new calling" for agriculture,[156] and that used by the American Farm Bureau, "don't touch my farm."[157] In this context the lesson from social marketing is important: do not fight your opponents; work with your friends.[158] Applied here, this lesson would teach one to focus on the Farmers Union, and forget about the Farm Bureau.

It is, of course, not that simple because, eventually, those advocating for changes in farming practices will have to address the opposition. The point is for advocates to refrain from focusing their early energy on trying to win over those in fiercest opposition. Instead, by working with those who are already on their side, advocates can establish momentum for the idea and weaken the opposition. By concentrating on those ready to act, those in support of carbon-friendly agricultural practices, one can get the ball rolling and potentially kick off cascades.

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[154] *See* Gilbert M. Gaul, Sarah Cohen & Dan Morgan, *Federal Subsidies Turn Farms Into Big Business,* WASHINGTON POST (Dec. 21, 2006), http://www.washingtonpost.com/wpdyn/content/article/2006/12/20/AR2006122001591.html.

[155] *See infra* Appendix II: A Green Revolution Unfolds.

[156] Dittrich, *supra* note 33.

[157] *See* Stallman, *supra* note 40.

[158] *See* KOTLER & LEE, *supra* note 112, at 52.

1. The Punjab Farmers

One of the key pillars of the Green Revolution was working with farmers who were ready to act to demonstrate the benefits of the proposed program. Instead of trying to convince farmers and reluctant ministers of the benefits of improved seeds, the proponents of the new agricultural program, chiefly the Indian government along with the Ford and Rockefeller Foundations, worked with existing farmers to plant the new seeds on a portion of their farms.[159] The idea was to demonstrate to the local farmers that the new seeds and techniques were superior and resulted in higher yields relative to traditional farming practices.[160]

A particular group of farmers, those from the Punjab region, were especially proactive in advancing the practices.[161] As Subramaniam, one of the fathers of the Green Revolution, remarked, "when this new technology was offered to them they took to it like fish to water. Everybody vied with one another to demonstrate that he was best able to utilize the new technology."[162] Once these farmers got going there was no holding them back. They competed with each other to produce higher yields, sought out even further improvements to their farms, and showed others the way.[163] "The Punjab farmer showed all the others how to utilize this new technology to bring about a revolution . . . [in] agricultural production."[164]

2. Finding America's Punjab Farmers

American needs to find its Punjab farmers. In his book on "social epidemics," *The Tipping Point*, Malcolm Gladwell provides a roadmap by outlining the kinds of people who are critical in spreading things, such as ideas, behaviors, and products.[165] According to Gladwell, the most important people are Mavens, Salesmen, and Connectors.[166] The Mavens are "information specialists" who gather knowledge and share it widely; they "are really information brokers, sharing and trading what they know."[167] Mavens kick start social epidemics. The Salesmen are those with powerful skills of persuasion; the kind of people one is naturally inclined to agree with no matter what they say.[168] Once the idea ends up in

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[159] SUBRAMANIAM, *supra* note 122, at 22.
[160] *Id.* at 47-48.
[161] *Id.* at 49-50.
[162] *Id.* at 49.
[163] *Id.* at 50.
[164] *Id.*
[165] *See* Malcolm Gladwell, The Tipping Point: How Little Things Can Make a Big Difference (2000).
[166] *Id.*
[167] *Id.* at 69.
[168] *Id.* at 70.

their hands, it becomes infectious as it is hard to resist their sales job.[169] Finally, there are the Connectors: people who simply know a lot of people. Once the Connectors have embraced a new idea, it really gets moving because they interact with lots of others on a regular basis and therefore sow the seed broadly.[170] These three types of people are the keys to spreading new ideas, according to Gladwell.

In *Marketing Management,* Kotler and Keller outline the steps to connect to the right people: First, identify influential individuals and companies and devote extra effort to them; second, create opinion leaders by supplying certain people with the product on attractive terms; third, work through people who have the ear of the community, such as local disk jockeys, association presidents, etc; and finally, develop word of mouth referral channels and use influential or believable people in advertising.[171]

It is not possible to identify exactly who these people are from afar. But there are some questions to ask that can lead to the right people in the agricultural context. Who are in leadership positions in agricultural organizations? Who is always tinkering with new farming practices? Who were the first to jump on the biofuels bandwagon? Who seems to set the path for the local agricultural community in terms of local trends (e.g., the type of pick-up that everyone drives)? Who is always surrounded by people at the local coffee shop? Find these people and focus on them. They are the key to get things moving. As a first step, the heads of farm organizations like the American Corn Growers Association who are already interested in making strides towards addressing climate change are the best people to approach.

Getting the early movers moving is especially important because of the cascades phenomenon. As explained before, people rely on various mental shortcuts to guide their decision-making processes and may be predisposed to make certain decisions if that is what everyone else seems to be doing.[172] By getting people, especially ones with strong social standing, to start doing something like no-till agriculture, one can trigger a cascade such that others follow suit.

This may be particularly powerful if the decision has a cultural or reputational dimension. As noted earlier, cultural influences are the most powerful force in shaping our individual needs and wants.[173] If a certain outcome can be characterized along the lines of this is what "people like me" do, then an individual actor will be much more likely to choose that outcome. Similarly, if the issue is couched in reputational terms and

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[169] *See id.*
[170] *See id.*
[171] KOTLER & KELLER, *supra* note 91, at 550.
[172] See Controlling Availability Cascades, supra note 74, at 375.
[173] KOTLER & KELLER, *supra* note 91, at 174.

therefore becomes a question of social acceptance, then a person is likely to act in a way to gain the approval of his peers.

The idea, of course, is to build the desired behavior into the collective consciousness; to make it part of the culture of the group, to trigger a certain behavior in a given scenario, and to invite disapproval if resisted by an individual actor. Once the idea becomes embedded, people are inclined to go along with it. Moreover, if the idea can be viewed as one of fairness, people may be inclined to punish those who refuse to accept it.[174] If the issue is framed as "doing your fair share," then the pressure to do your part, and thereby avoid the ridicule of others, will be powerful.

Getting the right people started doing the right thing will have profound effects on the eventual uptake of the idea by the wider group. It is crucial to identify the influential people, get them going in the desired direction, work to trigger a cascade through their early actions, endeavor to embed the idea into the culture, and frame it as a question of fairness. This is one of the most critical aspects of a program to encourage lower carbon activities within the agricultural sector.

E. Make It Worthwhile and Relatively Easy To Do: American Tradition of Agricultural Subsidies

One of the real obstacles to making on-the-ground progress toward reducing greenhouse gas emissions is that people generally view such a reduction as a sacrifice instead of an opportunity. To make matters worse, the sacrifice is required today while any benefits will not be realized until sometime in the future. As Giddens notes, climate change solutions "[m]ust have 'salience' – they have to supply the motivation to act. One hundred books on one hundred ways to reduce your carbon footprint will have less effect than just one that is geared to what people are positively motivated to do."[175]

Providing such salience in many other sectors of the economy may be difficult; in American agriculture, however, it is not. American farmers have long been motivated to undertake certain actions through government subsidies. For example, if a farmer refuses to plant cotton when the commodity price doesn't justify the investment: the government can encourage the farmer to plant by topping up the price.[176] If the government wants a farmer to set aside land for conservation purposes, the farmer will be more than willing as long as she receives compensation for leaving the

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[174] A Behavioral Approach to Law and Economics, supra note 66, at 23.

[175] GIDDENS, *supra* note 148, at 113.

[176] *See Direct and Counter-Cyclical Payment Program Fact Sheet*, FARM SERVICES AGENCY, http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=pfs&newstype=prfactsheet&type=detail&item=pf_20081219_insup_en_dcp.html (last visited Oct. 14, 2010).

land fallow.[177] If society would benefit from the growing of corn to produce biofuels, the agricultural sector will oblige as long as subsidies make it worthwhile for them to do so.[178] Agriculture is a malleable industry because it responds to subsidies.

It may be a bitter pill to swallow for those vehemently opposed to agricultural subsidies, but direct financial incentives are a strong motivator for farmers. If the government is going to pay farmers to do things, we ought to direct the resources toward those with the highest societal return on investment, such as reducing greenhouse gas emissions. Such a program could also lessen the angst over agricultural subsidies because it would distribute the benefit more widely because, in theory, everyone benefits from carbon reductions. The subsidy could also be applied to other types of activities like forests in the western and north-eastern United States. The policy mixtures could range from direct subsidies for low-carbon practices (akin to the Conservation Reserve Enhancement Program for other environmental initiatives) to cross-linkages with existing subsidy programs (e.g., eligibility for commodity programs could be conditioned on adoption of low carbon farming practices), to anything in between.

In the absence of direct financial incentives, other measures to convey immediate benefits will likely be useful. Many agricultural organizations already bestow non-monetary environmental awards upon their members. For example, the National Cattlemen's Beef Association, hardly a rabid environmental group, annually presents Environmental Stewardship Awards to farmers who "set an example for fellow producers by demonstrating successful management practices that not only benefit the environment, but also help their bottom line."[179] Awarding individuals with a "Carbon Friendly Farmer" certification could encourage people to adopt on-farm practices to reduce greenhouse gas emissions.

The process must also be rather straightforward in practice. Telling a farmer to reduce his carbon footprint is meaningless unless he knows exactly what to do. As explored earlier, many of the things that can be done on the farm to reduce greenhouse gas emissions are available, but in order for them to be implemented the farmer needs to be well informed of the practicalities of the recommended practices. The Green Revolution was

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[177] *See Conservation Reserve Program*, FARM SERVICES AGENCY, http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp (last visited Oct. 14, 2010).

[178] *See Biomass Crop Assistance Program*, FARM SERVICES AGENCY, http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ener&topic=cap (last visited Oct. 14, 2010).

[179] *Cattle Industry Opens Nominations for 20th Annual Environmental Stewardship Award*, NATIONAL CATTLEMEN'S BEEF ASSOCIATION, http://www.beefusa.org/NEWSCattleIndustryOpensNominationsfor20thAnnualEnvironmentalStewardshipAward39272.aspx (last visited Oct. 14, 2010).

successful because its proponents showed people how to do things; America should do the same in the carbon reduction context.

V. AN ASSESSMENT OF EXISTING EFFORTS

When we examine how our current strategies measure up to the principles outlined above, we can see the seeds of an effective campaign. But we still have a long way to go.

A. United States Department of Agriculture: Moving in the Right Direction

The U.S. Department of Agriculture (USDA) will play a central role in communicating to farmers the need and means to reduce greenhouse gas emissions. Thus far, the USDA is sounding the right notes at the top, but these efforts have yet to be effectively passed down the ladder. U.S. Secretary of Agriculture, Tom Vilsack has taken the offensive in trying to sell the idea of carbon reduction to the agricultural community. He penned an editorial in the Des Moines Register on July 21, 2009, in which he stated that he believed agriculture and forestry could "play a vital role in addressing climate change and that, if done properly, there are significant opportunities for landowners to profit from doing right by the environment. For rural America, doing right will also mean doing well."[180] He has followed with repeated statements to farmers that efforts to reduce greenhouse gas emissions, in particular, carbon offset programs, "could create an economic opportunity for farmers and ranchers."[181]

This is the right kind of message; however, it must be supported by further campaign initiatives to be effective. For example, by focusing strictly on economic opportunities, Vilsack has opened himself up to criticism that the climate change programs will prove costly while the benefits will be illusory. Following Vilsack's editorial in the Des Moines Register, former Agriculture Secretary, Mike Johanns fired back arguing that "unfortunately the costs of cap and trade are real, while . . . the benefits for farmers and ranchers are theoretical."[182]

Vilsack failed to embed the message in a larger narrative with resonance. He told a one-line story that lacked context and was thus fairly open to attack. If Vilsack had constructed a larger story, one about the roles farmers have played in heading off previous challenges (e.g., Green

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[180] Tom Vilsack, *Addressing Climate Change Could Revitalize Rural America*, DES MOINES REGISTER (July 21, 2009), http://m.dmregister.com/detail.jsp?key=494542&full=1.

[181] Amy Bounds, *Vilsack at CU: Climate-Change Innovations Create Opportunity*, BOULDER DAILY CAMERA (Aug. 11, 2009, 12:00 AM), http://www.dailycamera.com/ci_13129988?IADID=Search-www.dailycamera.com-www.dailycamera.com.

[182] Mike Johanns, *Flimsy Evidence Supporting Cap and Trade*, MCCOOK DAILY GAZETTE (Aug. 27, 2009), http://www.mccookgazette.com/story/1565498.html.

Revolution), he could have characterized farmers as heroes and thus partly immunized himself from attack. Secretary Vilsack attempted to put a positive spin on things by framing the issue as an opportunity rather than a challenge.[183] While this is praiseworthy, the frame could have been more watertight. For example, he could have painted a picture of a revitalized rural America following an agricultural revolution, spelled out who would benefit and how, and outlined the kind of changes that will need to occur in farmers' fields to bring this vision to life. Vilsack is heading in the right direction but he still has a ways to go.

The USDA, the agency Vilsack heads, is not yet following its leader's direction on this issue. The USDA is assisting with the development of climate science[184] and preparing tools to enable farmers to measure their carbon footprints,[185] but it has yet to lead farmers in implementing carbon reduction technologies. The USDA is not communicating with farmers in commonsensical language about what they can do to reduce carbon emissions and does not appear to be attempting to inspire farmers to take the initiative to engage in carbon reduction on the farm. The agency is not singling out individual farmers most likely to lead the pack, and is instead disseminating information in a fairly generic way.[186] While it has made progress in making potential climate reductions rather straightforward (e.g. the Voluntary Reporting of Greenhouse Gases-CarbOn Management Evaluation Tool, known as COMET-VR),[187] it has yet to provide clear instructions on what can be done on the farm. For instance, if a farmer is interested in learning about on-farm reduction opportunities, he must visit the EPA or the Natural Resources Conservation Service's website for guidance.[188] Furthermore, the USDA has yet to provide direct benefits to farmers who reduce carbon emissions. There is much talk of the opportunities associated with carbon credit schemes, but the benefits are uncertain at present.[189] It is crucially important that a farmer inspired to reduce greenhouse gas emissions has the direction and resources he needs to bring it to life. The USDA needs to provide the direct support needed to achieve the vision outlined by Vilsack.

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[183] *See* Bounds, *supra* note 181.

[184] *See U.S. Climate Change Science Program Report*, U.S. DEP'T OF AGRIC., http://www.csrees.usda.gov/nea/nre/in_focus/global_if_climate_change_report.html (last visited Oct. 6, 2010).

[185] *See Voluntary Reporting Carbon Management Tool*, U.S. DEP'T OF AGRIC., http://www.cometvr.colostate.edu/ (last visited Oct. 15, 2010).

[186] *See id.*

[187] *Id.*

[188] *See Agriculture Practices that Sequester Carbon and/or Reduce Emissions of Other Greenhouse Gases*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/sequestration/ag.html (last visited Oct. 1, 2010); *Reducing Greenhouse Gas Emissions and Sequestering Carbon*, U.S. DEP'T AGRIC. NATURAL RES. CONSERVATION SERV., http://soils.usda.gov/survey/global_climate_change.html#Climate (last visited Oct. 1, 2010).

[189] *See e.g.*, Vilsack, *supra* note 180.

B. The Environmental Protection Agency: Good Ideas but Glossing Over Agriculture

In many respects, the EPA is implementing the right kinds of ideas, but it appears to skip over agriculture. For example, the Climate Leaders program is an excellent example of focusing on a group of people ready to move, and helping them get going.[190] As the website explains:

> Climate Leaders is an EPA industry-government partnership that works with companies to develop comprehensive climate change strategies. Participating companies commit to reduce their impact on the global environment by completing a corporate-wide inventory of their greenhouse gas emissions based on a quality management system, setting aggressive reduction goals, and annually reporting their progress to EPA. Through program participation, companies create a credible record of their accomplishments and receive EPA recognition as corporate environmental leaders.[191]

The Climate Leaders program appeals to a company's aspirations by recognizing it as an environmental leader[192] and aims to get the early movers moving by recognizing the participating companies as the ones on the leading edge of corporate America's efforts to reduce emissions. The EPA provides resources like free technical advice, downloadable reporting tools, and face-to-face meetings to help climate leader companies in their efforts; it also provides immediate benefits to such companies in the form of public recognition as environmental leaders.[193]

The program is proving successful with respect to certain industry leaders. When it joined the program, the Public Service Enterprise Group ("PSEG"), an energy producer, set itself the goal of reducing its 2000 carbon emissions levels by 18% by 2008.[194] The company far exceeded that goal by reducing its emissions by 31%, "and in the process became one

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[190] *See Climate Leaders*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/stateply/index.html (last visited Oct. 1, 2010).

[191] *Id.*

[192] *See EPA News Release: Climate Leaders Program Recognizes Partners for Reducing Greenhouse Gas Emissions*, U.S. ENVTL. PROT. AGENCY (July 21, 2009), http://yosemite.epa.gov/opa/admpress.nsf/6fa790d452bcd7f58525750100565efa/c710abfd65fb066d852575fa00627ea1!OpenDocument (statement of EPA Administrator Lisa P. Jackson: "We congratulate the members of the partnership upon meeting their goals to confront climate change. EPA's Climate Leaders are some of the largest and most competitive companies in manufacturing, finance, information technology and other major sectors of the economy, . . . [t]hey're proving that they can be both industry leaders, and leaders in the fight against climate change.").

[193] *Id.*

[194] Public Service Enterprise Group, *PSEG Exceeds Climate Leaders Goal*, P.R. NEWSWIRE (July 23, 2009), http://www.prnewswire.com/news-releases/pseg-exceeds-epa-climate-leaders-goal-62270147.html.

of the nation's leading low-carbon energy companies."[195] PSEG is now a leading proponent of a cap and trade program to limit carbon emissions in the United States. It is a good example of early action leading to widespread leadership and is exactly the kind of program contemplated by this Article.

However, the Climate Leaders Program is not reaching the agricultural sector. A survey of the companies participating in the program lists only five (The Mosaic Company, Campbell Soup Company, Coca-Cola Enterprises, ConAgra Foods, Frito-Lay, Inc.) in the agricultural sector.[196] In contrast, over a dozen companies operating in the manufacturing sector have joined the program.[197] EPA seems to be handing off the issue of greenhouse gas reductions within the agricultural sector to the USDA[198] as well as to nonprofit and private sector organizations.[199] The EPA has developed an intelligent and detailed program to reduce emissions in the manufacturing and other sectors. A similar program should be prepared for the agricultural sector.

VI. CONCLUSION

Agriculture has a major role to play in reducing greenhouse gas emissions, in a low cost, low risk, and potentially financially rewarding manner. A concerted effort to motivate the agricultural sector to take action toward reducing greenhouse gas emissions is now needed. This Article assessed the importance of stories in shaping people's lives, ventured into the depths of cognitive science to understand why individuals act the way they do, and drew some insights from the world of marketing. This Article further explained the importance of talking to people like humans, telling a good story, appealing to people's better sides, helping the right people build momentum for the group as a whole, and making things easy and beneficial.

Finally, the Article considered the kinds of programs being implemented by the U.S. government in an effort to motivate people to reduce their greenhouse gas emissions. These agencies are heading in the

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[195] *Id.* (quoting Eric Svenson, PSEG's vice president of environment, health and safety).

[196] *See Climate Leaders Partners*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/stateply/partners/index.html (last visited Oct. 6, 2010). It is worth noting that only one of these companies is directly involved in the production of agricultural commodities (The Mosaic Company). The other four are instead food and beverage companies (Campbell Soup, Coca-Cola, ConAgra, and Frito-Lay).

[197] *Id.*

[198] *See* Lisa P. Jackson, *The Role of Agriculture and Forestry in Global Warming Legislation*, U.S. ENVTL. PROT. AGENCY (July 22, 2009), http://www.epa.gov/ocir/hearings/testimony/111_2009_2010/2009_0724_lpj.pdf (testimony before the U.S. Senate committee on agriculture, nutrition, and forestry).

[199] *See Agriculture and Forest Land*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/wycd/agforestry.html (last visited Oct. 2, 2010).

right direction, but still have a long way to go before they effectively motivate farmers to do their part.

Many Americans have realized the important role that agriculture has to play and now must understand the tools with which to spur farmers into action. Will we be able to bring it all together and sow those seeds of the climate revolution in agriculture? Let's hope so.

APPENDIX I: PARAGONS OF VIRTUE

A cricket pitch made all the difference. India was on the brink of massive famine in the early 1960s, with large shipments of food aid from the United States being the only thing preventing large-scale starvation.[200] Despite promising agricultural technology development in other parts of the world, there was strong bureaucratic opposition to importing the new wheat seeds in India.[201] Chidambaram Subramaniam, India's agriculture minister at the time, was determined to break through the bureaucratic barriers that were holding its agricultural sector back. One day, in a fit of frustration, Mr. Subramaniam ordered the cricket pitch in his garden to be dug up and planted with the new wheat seeds.[202] It was a symbolic act that helped break through the opposition.

The Green Revolution yielded phenomenal results. Prior to the revolution, India's best year of wheat production occurred in 1964 with a record harvest of 12.3 million tons.[203] By 1968, the harvest was up to 16.5 million tons – forty percent higher than the previous record.[204] The following year production increased to 18.7 million tons, and the year after that production rose to over 20 million tons.[205] In five years, India had increased its domestic wheat production by approximately seventy percent and headed off of food crises in the process.[206] It was an extraordinary accomplishment, and its roots can be traced back to a single cricket pitch in a minister's garden.

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[200] *See The Story of Wheat: Ears of Plenty*, THE ECONOMIST (Dec. 20, 2005), http://www.economist.com/node/5323362?story_id=5323362.

[201] *Id.*

[202] *See Chidambaram Subramaniam, Obituary*, THE ECONOMIST (Nov. 16, 2000), http://www.economist.com/node/423644.

[203] Stanley Johnson, Green Revolution 168 (1972).

[204] *Id.*

[205] *Id.*

[206] *See id.*

APPENDIX II: A GREEN REVOLUTION UNFOLDS

The notion that farmers are paragons of virtue is deeply rooted in the human consciousness. Thomas Jefferson exalted farmers as pillars of American democracy when he famously argued that:

> Those who labor in the earth are the chosen people of God, if He ever had a chosen people, whose breast He has made His peculiar deposit of substantial and genuine virtue. . . . Corruption of morals in the mass of cultivators is a phenomenon of which no age nor nation has furnished an example.[207]

This august view of farmers is not limited to political commentary, if such a banausic label can attach to Jefferson's influential writings. Literature drips with allusions to virtuous farmers as well. For example, in his famous novel *Anna Karenina,* Leo Tolstoy puts forward essentially only one principled character – a farmer named Constantine Dmitrich Levin.[208] This farmer is troubled by the economic despair of the peasant class and embarks on the ambitious task of writing a treatise to improve the "relation of the people to the soil" (i.e., farming practices), which he sees as the foundation for betterment of the peasants.[209] He lovingly marries a beautiful wife, has a child, and completes his treatise. He returns to farming and

> cut[s] more and more deeply into the soil like a plough, so that he could not be drawn out without turning aside the furrow.
>
> To live the same family life as his father and forefathers - that is, in the same condition of culture - and to bring up his children in the same, was incontestably necessary. It was as necessary as dining when one was hungry; and to do this, just as it was necessary to cook dinner, it was necessary to keep the mechanism of agriculture at Pokrovskoë going so as to yield an income. Just as incontestably as it was necessary to repay a debt was it necessary to keep the patrimonial estate in such a condition that his son, when he received it as a heritage,

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[207] Thomas Jefferson, Notes on the State of Virginia 226 (H. Sprague, 9th ed. 1802) (1787).

[208] LEO TOLSTOY, ANNA KARENINA (Gustavus Spett ed., Constance Garnett trans., The Heritage Press 1952).

[209] *Id.* at 400.

> would say "Thank you" to his father as Levin had said "Thank you" to the grandfather for all he had built and planted. And to do this it was necessary to look after the land himself, not to let it, and to breed cattle, manure the fields, and plant timber.[210]

In contrast, Anna Karenina, the beautiful, engaging, urban socialite, throws herself under a train.[211]

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[210] *Id.* at 905.
[211] *Id.* at 879-880.